ASOSKOVA, S.M., dotsent; LOYKO, I.O., dotsent

Professor Pavel Nikolaevich Napalkov; on his 60th birthday.

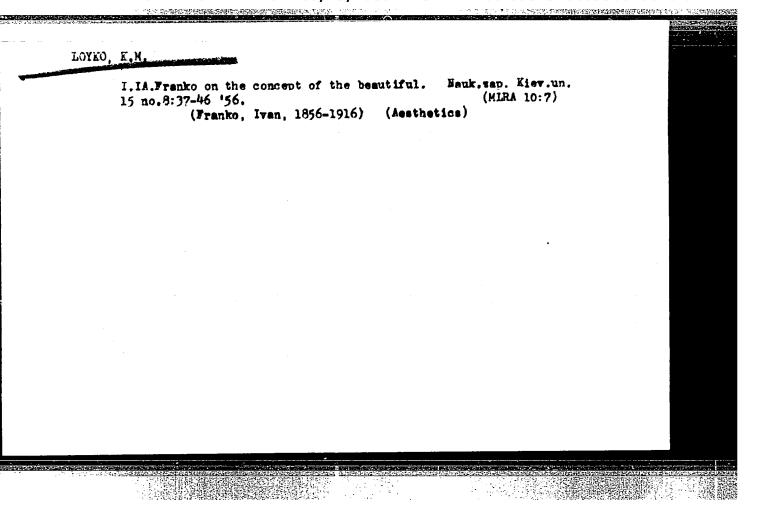
Vest.khir. no.7:140-141 '61. (MIRA 14:12)

(NAPALKOV, PAVEL NIKOLAEVICH, 1900-)

LOYKO, I.O., dotsent; PAN'KINA, I.F., kand.med.nauk

Actinomycosis of the organs of the urinary system. Urol. i nefr. no.2:61-62 65. (MIRA 19:1)

1. Urologicheskaya klinika (zav. - prof.G.S.Grebenshchikov) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova, Leningrad.

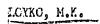


LOYKO, L.M.

Expanding belt conveyer. Stroi.mat. 9 no.9:31 S 163.

(MIRA 16:10)

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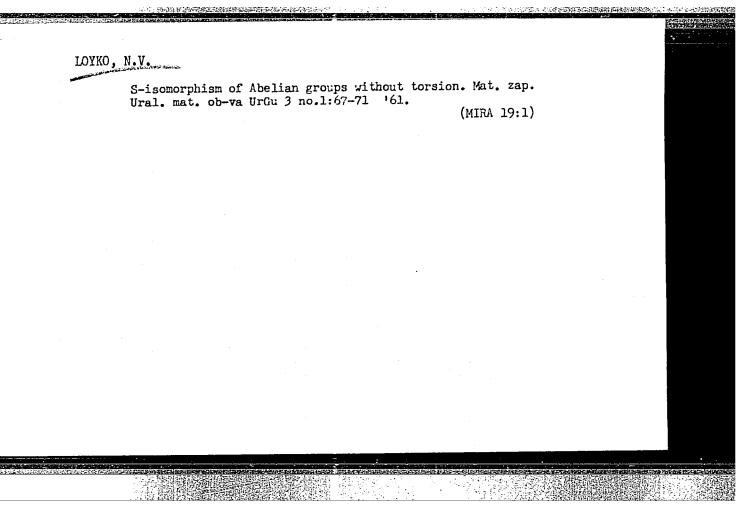
Efficient utilization of raw products and materials is an important source for the increase of labor productivity.

Khar. prom. no.1:73-76 Ja-Mr '65. (MIRA 18:4)

LOYKO, N.V.

S-isomorphisms of mixed Abelian groups of rank r = 1. Sib. mat. zhur. 6 no.5:1053-1067 S-0 '65. (MIRA 18:10)

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LOYKO, P. G.			e e e e e e e e e e e e e e e e e e e	nenamun perpektikan kanalan beranan	754.50 M 5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		
Peat							
Peat fertilizers 1953.	have great	possibilities f	or increasing	g yield. Dost	. sel'khoz.	No. 2,	
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SO: Monthly I	List of Russ	sian Accessions,	Library of	Congress.	June	1953 <b>, U</b> ncl.	
oo. Honoily I	OTO OT HUSE	TEN ROCEBOTONS	Distary Of			<i></i>	

- 1. LOYKO, P. G.
- 2. USSR (600)
- 4. Stock and Stockbreeding
- 7. Wide use of peat for bedding livestock on collective farms of Bobruysk Province, Sots. zhiv., 15, No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

LOYKO, P. G.

Preparation and use of peat fertilizers Moskva, Gos. izd-vo sel'khoz. lit-ry, 1954.

## "APPROVED FOR RELEASE: 08/23/2000

#### CIA-RDP86-00513R000930620010-0

USSR / Soil Science. Organic Fertilizers.

J-3

Abs Jour

: Ref Zhur - Biologiya, No 16, 1958, No. 72713

Author

Loyko, P. G.

Inst

: Not given

Title

: Use of Turf in Fortilizers

Orig Pub

: Udobreniye i wrozhay, 1958, No 1, 29-33

Abstract

: No abstract given

Card 1/1

KARAKIN, F.F.; RODICHEV, A.F.; PUTIY, G.P.; BASOV, A.P.; PYATAKOV, L.V.; RAUTSEP, A.P. [Rautsepp, A.]; BLAGONRAVOV, S.I.; GRECHIKHO, A.M.; DRUZHININ, N.N.; SHUKHMAN, D.I.; BAUSIN, A.F.; LOYKO, P.G.; CHERNAKOV, B.A.; SHORNIKOV, F.M.; SOPIN, P.F.

Remarks of the members of the Conference. Torf. prom. 37 no.5: 22-28 '60. (MIRA 14:10)

1. Ivanovskiy gosudarstvennyy torfotrest (for Karakin). 2. Sverdlovskiy torfotrest (for Rodichev). 3. Gosplan USSR (for Putiy). 4. Leningradskiy gosudarstvennyy trest torfyanoy promyshlennosti (for Basov). 5. Moskovskiy oblastnoy sovnarkhoz (for Pyatakov). 6. Gosudarstvennyy nauchno-tekhnicheskiy komitet Estonskoy SSR (for Rautsep). 7. Gor'kovskiy sovnarkhoz (for Blagonravov). 8. Belorusskiy sovnarkhoz (for Grechikho, Shukhman). 9. Yaroslavskiy sovnarkhoz (for Druzhinin). 10. Bobruyskaya mashinno-meliorativnaya stantaiya (for Loyko). 11. Gipromestprom Gosplana RSFSR (for Chernakov). 12. Mezhkolkhoznoye torfopredpriyatiye "Volosovskoye" Leningradskoy oblasti (for Shornikov). 13. Vsesoyuznyy nauchno-issledovatel'skiy institut torfyanoy promyshlennosti (for Sopin). (teat industry)

LOYKO, P.S.

Transfer of a plant to operations on natural gas. Ogneupory 25 no.5:213-214 \*60. (MIRA 14:5)

1. Shchekinskiy shamotnyy zavod. (Refractory materials) (Gas, Natural)

#### "APPROVED FOR RELEASE: 08/23/2000

#### CIA-RDP86-00513R000930620010-0

へうメベク・犬・ゲエ・ USSR/Human and Animal MorphoLogy。 Nervous System Peripheral Nervous System

3-3

Abs Jour: Ref Zhur - Biol., No 19, 1958, 88403

Author : Loyko, R. M.

Inst : Minsk Medical Instituto

Title : The Connection of the Cariful Merves with the Margi-

nal Sympathetic Trunk

Orig Pub: Sb. nauchm. tr. Winsky med. in-t, 1957, 20, 340-354

Abstract: It was demonstrated on 12 cadavers of newborn children of both sexes, that connecting branches between C<sub>3</sub> and C<sub>1</sub> with the cervical part of the marginal sympathetic trunk (MST) is affected by a nervous plexus of the ascending cervical artery (PACA), consisting of branches 0.025-0.4 nm thick.

Card 1/2

34 .

S-3

USSR/Human and Animal Morphology. Mervous System.
Peripheral Mervous System

Abs Jour: Ref Zhur - Biol., No 19, 1958, 88403

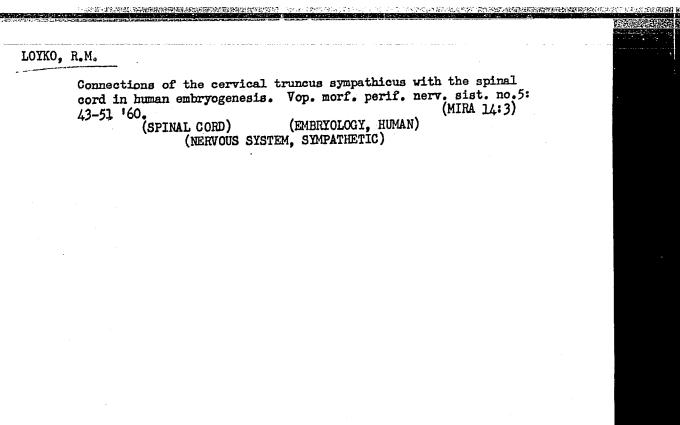
Abstract: Its larger branches are connected with the middle, and occasionally with the lower, cervical sympathetic ganglion. The thinner branches of the PACA are connected through the plexus of the thyro-cervical trunk with the lower segments of the marginal sympathetic trunk; in some cases, the PACA is connected with the cranial segments of MST. Branches of C5 may participate in the formation of PACA. Thick myelinized fibres of spinal origin were demonstrated in the branches of PACA. They derive from C3C, and occasionally C5, and are present basically in the thicker branches of PACA, passing through it into the caudal segments of the MST.

Card 2/2

LOYKO, R.E., Cand Med Sci -- (diss) "The Structure of the links human of the cervical plexus with the bordering appathetic trunk in human Minsk, 1958. 11 pp. (Linsk State Med Inst). 230 copies.

(KL, 38-58, 108).

44



REZNIKOV, I.G.; KONONOVA, T.V.; KOBZEVA, L.A.; LOYKO, V.A.

Obtaining fatty acid esters in the manufacture of alkylol amides.

Trudy NIISZHIMSa no.3:15-19 '62. (MIRA 16:12)

#### LOYKO, V.I.

Dynamics of certain metabolic factors and mediators in the blood in peptic ulcer following surgery (partial vagotomy, combined sleep therapy, and nerve blocks). Trudy LSGMI 20:247-262 '54. (MLRA 10:8)

1. Klinika nervnykh bolezney Leningradskogo sanitarno-gigiyenicheskogo mediteinskogo instituta, zav. klinikoy - chlen-korrespondent AMN SSSR. zasluzhennyy deyatel' nauki, prof. I.Ya.Razdol'skiy i Khirurgicheskoye otdeleniye bol'nitsy zavoda im. Frunze, glavnyy vrach bol'nitsy V.V. Ashkov, zav. otdeleniyem - zasl. deyatel' nauki, prof. A.Yu.Sozon-Yaroshevich.

(PEPTIC ULCER, therapy,
vagotomy, sleep ther. & nerve blocks, eff. on blood sugar)
(SLEEP, therapeutic use,
peptic ulcer, eff. on blood sugar)
(ANESTHESIA, REGIONAL, in various diseases,
nerve block in peptic ulcer, eff. on blood sugar)
(BLOOD SUGAR, in various diseases,
nerve block in peptic ulcer, eff. on blood sugar)
(BLOOD SUGAR, in various diseases,
peptic ulcer, eff. of nerve block, sleep therapy &
vagotomy)

## LOYKO, V.I.

Change in the vitamin B<sub>12</sub> level in the blood in epidemic hepatitis and liver cirrhosis. Trudy ISGMI no.69:62-72 '61. (MIRA 15:11)

1. Kafedra propedevtiki vnutrennikh zabolevaniy Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. kafedroy - chlen-korrespondent AMN SSSR prof. S.M.Ryss).

(HEPATITIS, INFECTIOUS) (LIVER-CIRRHOSIS) (CYANOCOBALAMINE)

NEKRASHEVICH, I.G.; LOYKO, V.I.; TISHKEVICH, M.I.

Use of semiconductor valve elements to measure the intensity of X-ray radiation. Sbor. nauch. trud. Fiz.-tekh.inst. AN BSSR no.7:107-113 '61. (MIRA 15:7) (Semiconductors) (X rays)

PRONIV, D.I., dotsent; LOYKO, Ya.A.

Use of cortisone in some diseases of the nervous system. Vrach. delo no.11:67-72 N \*62. (MIRA 16:2)

1. Kafedra nervnykh bolezney (zav. - zasluzhennyy deyatel' nauki prof. D.I. Panchenko) Kiyevskogo instituta usovershenstvovaniya vrachey.

(NERVOUS SYSTEM-DISEASES) (CORTISONE)

LOYKO, Ye.A.

Cortisone in the compound treatment of patients with cerebral arachnoiditis and arachnoencephalitis. Vrach. delo no.10:124-126 0 163. (MIRA 17:2)

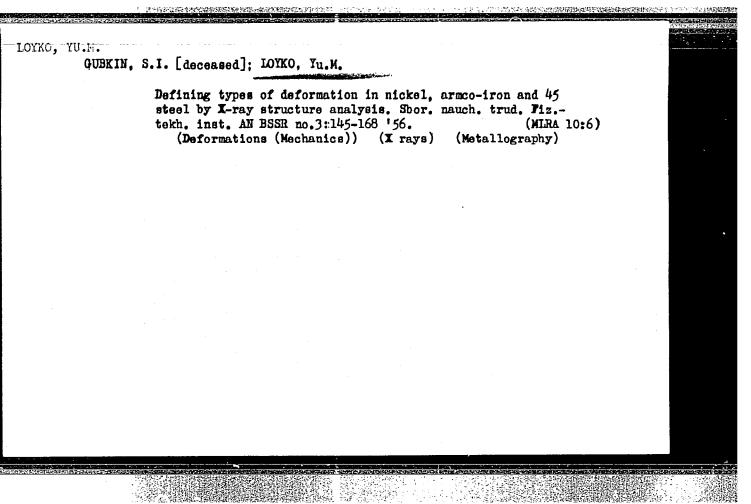
1. Kiyevskaya oblastnaya bolinitsa.

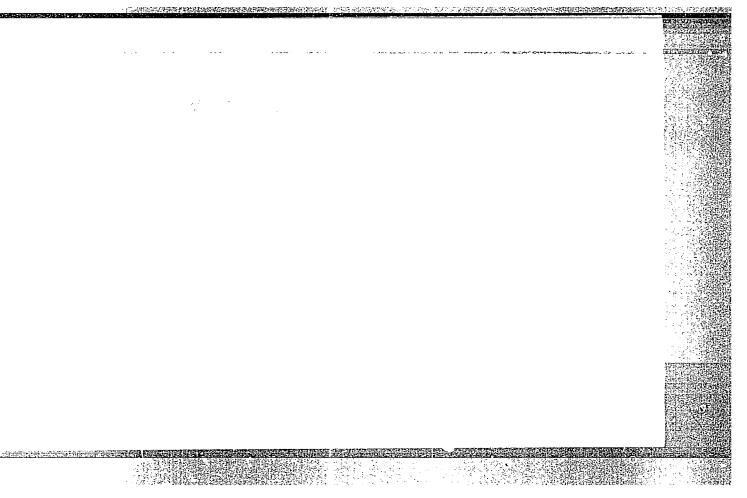
LOYKO, Yu. M.

"The Application of Roentgen Ray Analysis in the Study of Plastic Deformation During the Pressure Working of Metals." Cand Tech Sci. Belorussian Polytechnic Instimeni I. V. Stalin, 25 Dec 54. (SB, 14 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)

SO: SUN No. 556, 24 Jun 55





#### CIA-RDP86-00513R000930620010-0 "APPROVED FOR RELEASE: 08/23/2000

SOV/137-57-10-20132

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 244 (USSR)

Gubkin, S.I., Loyko, Yu.M. AUTHORS:

Determination of Type of Deformation of Nickel, Armco Iron, and TITLE:

Nr 45 Steel by X-ray Powder Analysis (Opredeleniye vida deformatsii nikelya, armkozheleza i stali 45 rentgenostrukturnym

metodom)

Sb. nauch. tr. Fiz-tekhn. in-t AN BSSR, 1956, Nr 3, pp 145-PERIODICAL:

168

The Debye powder method is used to investigate the type of ABSTRACT:

deformation (D) - D with complete hardening (cold), with incomplete hardening (analogous to cold), and with complete softening (hot) - an accordance with temperature and the strain-rate level. Annealed specimens of Ni, Nr 45 steel, and Armco Fe were deformed by upsetting both under static and under dynamic loads at 20-1100°C at 100° intervals. The dynamic tests were made on an impact-testing machine, the static tests on a 50-t press. In order to fix the structure, the specimen was thrown into water by means of a

special fixture at the end of the period of deformation. To Card 1/2

SOV /137-57-10-20132

Determination of Type of Deformation (cont.)

differentiate the D with complete and incomplete hardening of Ni, the X-ray is taken in a precision chamber in Cu radiation. Investigation of the form of D of Nr 45 steel below its temperature of phase transformation is done directly with Nr 45 steel, whereas it was done at temperatures > 7800 with specially alloyed steels having the same C contents as Nr 45 steel, but with the addition of Ni to fix the austenite. The recrystallization temperatures (R) of the austenite in Nr 45 steel experimentally obtained are verified by the curves of true stresses plotted on the basis of indicator diagrams. It is found that as temperature and the degree of D rise, the process of softening becomes more intense. Strain rate is found to affect the form of D only when the rate is changed by several orders of magnitude (in comparisons of static and dynamic tests), and its influence is greater in comparisons of relatively low rates. A reduction in strain rate increases the degree of R and lowers the temperature of onset and completion of R. The presence of multiple phases in an alloy usually results in reducing the temperature of onset of R, or in other words makes for D with incomplete softening. An analogous effect is displayed by an increase in unevenness of D. Therefore, on deformation by impact, which is more uneven than static D, the metal tends more to a D mechanism with incomplete softening. Experimental data are used to make recommendations on procedures for the pressworking of metals. Card 2/2

LOYKU,

137-58-5-10040

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 165 (USSR)

Pavlyukevich, Bodzyako, Loyko [Paulyukevich, B.L., AUTHORS:

Badzyaka. M.N., Loyka, Yu.M.]

Metal Structure in Induction Annealing (Struktura metalla pri TITLE:

induktsionnom otzhige) [ Struktura metalau pry induktsyynym

adpale]

Vestsi AN BSSR, Ser. fiz.-tekhn. n., Izv. AN BSSR. Ser. PERIODICAL:

fiz.-tekhn. n., 1957, Nr 2, pp 47-57 (In Belorussien, summary

in Russian)

Experimental data derived in induction annealing of worked ABSTRACT:

metals Armco iron and 1Kh18N9T steel are presented. The nature of the structure (hardened, not fully recrystallized, or fully recrystallized) is determined in accordance with the basic parameters of induction heating (temperature and rate of heating) and the degree of deformation; the temperature zones for incompletely recrystallized structures are plotted. Data on the grain size of the metals investigated are presented relative to temperature, rate of heating, and degree of deformation. Bib-

liography: 9 references. 1. Metals--Induction heating

3. Heat--Structural analysis A.B. 2. Metals--Heat treatment Card 1/1

LOYKO, Yu. M., TOFPENETS, R. L.

"Determination of the Type of Deformation in Copper and Aluminum by X-ray Analysis"

Sbornik nauchwyki: brudev, vyp. IV, Minck, Lad-ve-An Rosk, 1980, 261p.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000930620010-0"

LOYKO, Yu. M., BODYAKO, M. N., PAVLYUKEVICH, B. L.

"An Investigation of Changes in Hardness in the High-frequency Induction H Heating of Deformed Metal."

"Some Data on the Speed of Recrystallization in Induction Heating."

Shornik mauchnykis trudov, vyp. IV, Miusk, I.d-vc-An RSSR, 1950, 201p.

SOV/137-59-3-6297

Translation from: Referativnyy zhurnal Metallurgiya, 1959, Nr 3, p 193 (USSR)

AUTHORS: Pavlyukevich, B. L., Bodyako, M. N., Loyko, Yu. M.

TITLE: Recrystallization of Cold-worked Metals During Induction Heating

(Rekristallizatsiya kholodnodeformirovannykh metallov pri induktsion-

nom nagreve)

PERIODICAL: V sb.: Materialy Konferentsii molodykh uchenykh AN BSSR.

Minsk, 1958, pp 87-89

ABSTRACT: Metallographic and X-ray methods were employed in studying the

kinetics of the processes of recrystallization (R) occurring during

induction heating (H) of commercial iron and IKh18N9T steel.

Specimens were subjected to deformations ranging from 5 to 75% in a press. They were then heated to various temperatures (600-12000C) in an MGZ-102-type HF induction heater, the rates of H ranging from 50 to 650°/sec. The temperature was determined with the aid of a photoelectric pyrometer, the rate of H by means of oscillograms produced on a loop oscillograph. Rates and temperatures of R were

determined as functions of the rate of H and of the degree of the

Card 1/2 antecedent deformation. The parameters of induction H were

SOV/137-59-3-6297

Recrystallization of Cold-worked Metals During Induction Heating established which ensure the achievement of a completely recrystallized structure.  $T \cdot M$ .

Card 2/2

O

BODYAKO, M.N.; LOYKO, Yu.M.; PAVLYUKEVICH, B.L.

Recrystallization of induction heated Armco-iron and lKhl8N9T steel. Insh.-fiz.zhur. no.1:74-79 Ja '58. (MIRA 11:7)

1. Fiziko-tekhnicheskiy institut AN BSSR, g. Minsk. (Iron--Metallography) (Steel--Metallography)

#### CIA-RDP86-00513R000930620010-0 "APPROVED FOR RELEASE: 08/23/2000

LOYKO, YU.M.

SOV/137~59~3~3638

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 2, p 192 (USSR)

Loyko, Yu. M., Tofpenets, R. L. AUTHOR:

Determination of the Mode of Deformation of Copper and Aluminum by TITLE:

X-ray Diffraction Analysis (Opredeleniye vida deformatsii medi i

alyuminiya rentgenostrukturnym metodom)

PERIODICAL; Sb. nauchn. tr. fiz.-tekhn. in-t AN BSSR, 1958, Vol 4, pp 152-161

The temperature zones of a specific mode of deformation (D) of Cu ABSTRACT:

and Al through different D procedures were determined by X-ray diffraction analysis. The tests were carried out with cylindrical specimens (S) 9 mm in diam and 12 mm in height by the method of upsetting with either impact or static action of the forces. Greater precision was brought into the procedures of the hot deformation of Gu and Al and temperature ranges for various modes of D were established depending upon the degree and rate of D. It is shown that an increase in the temperature and degree of D increases the rate of

recrystallization. However, an increase in the rate of D decreases

somewhat the degree of recrystallization. Changes in the rate of dynamic testing have little effect on the mode of D. D with either a

Card 1/2

SOV/137-59-2-3638

Determination of the Mode of Deformation of Copper and Aluminum (cont.)

complete or an incomplete softening begins only at degrees of D which are specific for a given metal and which, incidentally, decrease with an increase in temperature.

V. N

Card 2/2

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SOV/137-59-1-1210

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 165 (USSR)

AUTHORS: Bodyako, M. N., Loyko, Yu. M., Pavlyukevich, B. L.

TITLE: An Investigation of Variations in Hardness of Strained Metal Occur-

ring During High-frequency Induction Heating (Issledovaniye izmeneniya tverdosti pri nagreve deformirovannogo metalla tokami vysokoy

chastoty)

PERIODICAL: Sb. nauchn. tr. fiz.-tekhn. in-t AN BSSR, 1958, Vol 4, pp 170-180

ABSTRACT: Investigations were carried out in order to determine how tempera-

ture, rate of induction heating, and degree of preceding deformation affect the H<sub>B</sub> of Armco iron and of 1Kh18N9T steel after annealing. The specimens were cold-worked in a press, the degree of deformation ranging from 5 to 75%; after machining (to a diameter of 22 mm and a length of 10 mm) and heating in a HF unit of the MGZ-102 type to temperatures of 700-1200°C at rates of 50-650°/sec, the specimens were cooled in water. It was established that deformations ranging from 5 to 30% have the greatest effect on the HB and that the HB curve exhibits a maximum. As the temperature is increased,

Card 1/2 the HB is reduced, and the effect of the degree of deformation is

SOV/137-59-1-1210

An Investigation of Variations in Hardness of Strained Metal (cont.)

diminished. The effect of the heating rate on the HB value is not appreciable Compared with annealing in a furnace, the induction method produces somewhat higher  $H_{\rm B}$  values.

 $T \cdot F$ .

Card 2/2

SOV/137-59-3-6296

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 193 (USSR)

AUTHORS: Bodyako, M. N., Loyko, Yu. M., Pavlyukevich, B. L.

TITLE: On the Problem of the Recrystallization Rate During Induction Heat-

ing (K voprosu o skorosti rekristallizatsii pri induktsionnom nag-

reve)

PERIODICAL: Sb. nauchn. tr. Fiz.-tekhn. in-t AN BSSR, 1958, Nr 4, pp 181-188

ABSTRACT: Recrystallization (R) processes occurring during HF induction heat-

ing of cold-worked specimens (S) of type E Armco iron and of steel 1Kh18N9T were investigated experimentally. After annealing, the S's were deformed in a press; although the degree of deformation (D) varied from 5 to 75%, the final dimensions of the S's remained approximately identical (h=10 mm, d=30 mm). The S's were machined to a diameter of 22 mm and were then heated at various

rates (50-6500/sec) in a HF induction heater to 700-1200°C. Mean numerical values of R rates (in a completed process) were established for Armco iron and for 1Kh18N9T steel as functions of

the degree of preliminary D and the temperature and rate of induction heating. It is demonstrated that at a D of 5% the rate of R in

SOV/137-59-3-6296

On the Problem of the Recrystallization Rate During Induction Heating

Armco iron is virtually independent of the degree of preliminary D. At a D equivalent to 15%, the rate of R is influenced by temperature in the region below the temperature of phase transformations only. In the case of D's of 30-75%, in which almost all R temperatures fall below the temperature of phase transformations of Fe, the rate of R also increases with increasing temperatures. As the temperature of R is increased, its effect on the rate of the R process diminishes. The temperature of the R observed experimentally increases almost linearly as the rate of heating is increased.

V.N

Card 2/2

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	E4. of Publishing House: L. Mariks; Tech. E4.: I. Volokianovich; E4ttorial Board; V.F. Severdenko, Academician, Academy of Sciences ESCR (Clief E4.), K.V. Oprev, Academician, Academy of Sciences ESCR, M.R. Bodyako, Candidate of Technical Sciences, and F.A. Farkhutik, Candidate of Technical Sciences.	
	FURPOSE: This book is intended for technical personnel and scientific workers.	
) =	COVERAGE: This collection of 23 articles covers the following subjects: small draft rolling analysis of wire-drawing, design analysis; sensition of the effect of drop-forging dies, impact upsetting, examination of the effect of temperature on plactic deformation, subplication and carburing of temperature on plactic deformation, subplication of temperature on plactic deformation, subplication of temperature.	
	Severdence, V.P., H.T. Prosvirov, and <u>H.P. Kovylrayev</u> . Small- liash Drop Forging and Design Elements of Small-Plansh Mess for Purging Bodies of Revolution	isoness Activity
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	tting Steel Blanks Vertical Upsetter	10 N
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	Potrako, M.R., Tu.M. Lorko, B.L. Paylrukerich, and V.I. Parkhi- morich, Mairystallization Annealing of Copper with High-Fre- quency Current Heating	# 10 P (23)
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)	Rekrasharich, I.G., and M.M. Olekhnowich. On the Mechanism of Phenomena [Occurring] on Electrons During Electric-Pulse Machanges in the Air at Atmospheric Pressure	
10	Webrasherich, I.G., and M.M. Olekhnovich. On Phenomena [Occurring] on Electrodes in Electric Pulse-Discharge Through a Thin Metal Eire	
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AUTHORS:

Bodyako, M.N., Loyko, Yu.M., Parkhimovich, V.I.

TITLE:

Structure and mechanical properties of titanium

alloys after induction annealing

SOURCE:

Akademiya navuk Belaruskay SSR. Fiziko-tekhnicheskiy institut. Sbornik nauchnykh trudov. no.6. Minsk, 1960.

130-149

TEXT: The purpose of the present work was to investigate the possibility of using induction heating for annealing cold-worked titanium alloys, as well as to study the influence of the main parameters of induction heating on recrystallization, on the structural changes and mechanical properties of the alloys investigated. Three types of titanium alloys, BT-5 (VT-5), BT-3-1 (VT-3-1) and BT-1-1 (VT-1-1), were studied. The chemical composition of these is given in Table 1. Prior to deformation, the specimens were annealed for 1 hour at 900°C (alloys VT-5 and VT-3-1) and at 800°C (alloy VT-1-1). They were then deformed to various degrees, ground down to a diameter of 16 mm and subjected to heating by induction at a rate of 25, 50, 150 and 300°C per second at temperatures of 700 to 1200°C. The

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Structure and mechanical ...

temperature was controlled by means of a photoelectric pyrometer designed by the Experimentatnyye masterskiye (Experimental workshops) of the Moskovskiy institut stali im. I.V. Stalina (Moscow Steel Institute imeni I.V.Stalin) and by a thermoelectric pyrometer TPN-1 (TEP-1) designed by the Laboratoriya induktsionnogo nagreva (Induction Heating Laboratory) of the Fiziko-tekhnicheskogo institut AN BSSR (Physicotechnical Institute, AS Belorussian SSR). The annealed structure was studied by means of metallographic and X-ray analyses; the change in mechanical properties was assessed from the strength and plasticity results obtained during It was found that the temperatures of upsetting in the press. commencement and completion of recrystallization during induction The rise in heating are displaced to a higher range. recrystallization temperature is the greater, the higher the rate For alloy VT-5, this temperature rise is 150 to of heating. 200°C for a heating rate of 25°C/sec and 350to 400°C for a heating rate of 300°C/sec. For the same heating rates the temperature rise for the alloy VT-1-1 and VT-3-1 is 80 to 100°C and 150 to 200°C respectively, and for the alloy VT-3-1 it is 50 to 70°C and Card 2/4

#### "APPROVED FOR RELEASE: 08/23/2000

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30944 S/571/60/000/006/008/011 E091/E435

Structure and mechanical

150 to 200°C respectively. The higher annealing temperature used in induction heating is compensated for by the high heating rate and by the fact that soaking is not required and that intense grain growth does not occur. As the degree of deformation has little influence on the grain size of induction heated specimens, a more homogeneous structure is obtained throughout the section of the deformed metal. The plasticity and strength are higher in the case of induction annealing; particularly if there is a great increase in the plasticity of the alloy VT-3-1, which is very difficult to deform. The following parameters are recommended for annealing: alloy VT-5 to be heated to 1050 to 1100°C at a rate of 25°C/sec or to 1100 to 1150°C at 50°C/sec; alloy VT-1-1 to be heated to 800°C at 25°C/sec or to 900°C at 150°C/sec; alloy VT-3-1 to be heated to 1100°C at 50°C/sec. There are 12 figures, 1 table and 6 references: 4 Soviet and 2 non-Soviet. The reference to an English language publication reads as follows: Ref. 4: Obinata J. Nischimura, J. Inst. of Metals, v.84, 1956.

Card 3/4

Structure and mechanical ...

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				T	<del></del>		Table 1.		
Alloy	Al	Cr	Мо	Fe	Si	N <sub>2</sub>	H <sub>2</sub>	С	Type of alloy
VT-5	4.9	-			0.12	-	-		one-phase
VT-1-1	-		-			0.017	0.005	0.041	11
VT-3-1	4.2	1.6	1.2	0.20	0.02	0.04	0.02	0.05	two-phase

Card 4/4

S/194/61/000/006/071/077 D201/D302

AUTHOR:

Il'minskiy, N.Ya. and Loyter, Ye.G.

TITLE:

Junction transistor frequency divider

PERIODICAL:

Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1961, 12, abstract 6 K81 (V sb. Poluprovodnik. pribory i ikh primeneniye, no. 5, M., Sov. radio,

1960, 254-263)

TEXT: The principle of operation is considered of a junction transistor HF divider (D) together with the results of experimental analysis of the steady state operation of D with junction transistor [14 (P14) with division factor 5. The operation of D was examined at a frequency of 1 Mc/s in a common emitter circuit. The divider can also work in common base configuration, the circuit has been found to be, however, less stable in operation. D operates also with other than P14 transistors, provided the current gain cut-off frequency is several times higher than the output frequency from the

Card 1/2

Junction transistor... S/194/61/000/006/071/077
D201/D302
divider. 4 references. Abstracter's note: Complete translation

BODYAKO, M.N.; LOYKO, Yu.H.; PARKHIMOVICH, V.I.

Lack of uniformity in the distribution of deformations in the VT-5 titanium alloy. Dokl.AN BSSR 4 no.1:28-31 Ja '60.

(MIRA 13:6)

1. Predstavleno akademikom AN BSSR V.P. Severdenko. (Titanium alloys)

h0589 \$/137/62/000/008/039/065 A006/A101

18.1285

AUTHORS: Bodyako, M. N., Loyko, Yu. M., Parkhimovich, V. I.

TITLE: The structure and the mechanical properties of titanium alloys

during induction annealing

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 8, 1962, 36, abstract 81222 ("Sb. nauchn. tr. Fiz.-tekhn. in-t AN BSSR", 1960, no. 6, 130 - 149)

TEXT: The authors studied strength properties of titanium alloys BT-5 (VT-5), BT-3-1 (VT-3-1) and BT-3-1 (VT-3-1) after induction heating of cold-deformed specimens at various heating rates ranging from 25 to 300 degree/sec., and heating temperatures from 700 - 1,200°C. During induction heating the temperatures of beginning and completed recrystallization are shifted to the side of higher temperatures to a degree corresponding to the heating rate. The metallographical investigation has shown that the magnitude of grains depends little on the deformation degree, but depends considerably upon the annealing temperature. At higher heating rates, however, a strong increase of the grain size does not take place. As a result of induction heating ductility and strength increase

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Card 1/2

The structure and the mechanical properties of...

particularly sharply (by about twice) for alloy VT-3-1.
prinduction annealing are proposed for various alloys.

M. Krivoglaz

[Abstracter's note: Complete translation]

## "APPROVED FOR RELEASE: 08/23/2000

#### CIA-RDP86-00513R000930620010-0

JD/HW EWT(m)/EWP(t)/ETI/EWP(k) IJP(c) UR/0276/66/000/004/B029/B029 L 09143-67 SOURCE CODE: AR6027449 ACC NRI AUTHOR: Gorev, K. V.; Loyko, Yu. M.; Parkhimovich, V. I. in combination with impact deformation Ausforming 45 steel TITLE: SOURCE: Ref. zh! Tekhnologiya mashinostroyeniya, Abs. 4B198 REF SOURCE: Sb. Metallovedeniye i term. obrabotka met. Minsk, Nauka i tekhnika, 1965, 95-98 TOPIC TAGS: metal ausforming, martensite, metal deformation, yield stress ABSTRACT: Development of recrystallization in the deformation process during ausforming of steel was minimized by using special equipment for impact upsetting with subsequent rapid cooling in water. The authors studied the effect which temperature and degree of deformation have on the size of martensite needles, residual stresses of the first and second order, block size, yield stress, breaking stress and hardness of 45 steel after ausforming and ordinary hardening, as well as after protracted tempering at 300°C. Comparative results are given for ordinary hardening and ausforming at temperatures of 800 and 1000°C and also after subsequent annealing at 300°C. 2 illustrations. [Translation of abstract] SUB CODE: 11 UDC: 621.785 1/1 Card nst

SOURCE CODE: UR/0137/66/000/004/1068/1068 ACC NR. AR6027512 AUTHOR: Gorev, K. V.; Loyko, Yu. M.; Parkhimovich, V. I. TITLE: High temperature thermomechanical treatment of 45 steel by impact deformation SOURCE: Ref. zh. Metallurgiya, Abs. 41459 REF SOURCE: Sb. Metallovedeniye i term. obrabotka met. Minsk. Nauka i tekhnika, 1965, 95~98 thermomechanical property, metal deformation, martensite steel / 45 steel TOPIC TAGS: TRANSLATION: The effect of temperature and degree of deformation on the martensitic needle size, block dimensions,  $\sigma_{_{\! B}}$ ,  $\sigma_{_{\! B}}$  and  ${}^{_H}{}_V$  of 45 steel was studied after high temperature thermomechanical treatment and normal quenching, and after additional tempering at 300°C. Deformation was carried out at rates of 300-600 sec 1 in varying amounts (0-100%) for deformation temperatures ranging from  $A_c$  to 1000°C. Both high temperature thermomechanical treatment and tempering produced finer needles of martensite than did quenching. First order residual stresses were greater after high temperature thermomechanical treatment than after quenching. Second order stresses after high tenperature thermomechanical treatment and quenching were identical. After high temperature thermomechanical treatment and subsequent tempering at 300°C, the values of og UDC: 669.14.018.26:621.785 **Card 1/2** 

are higher than after normal heat treatment; $\sigma_b$ only was slightly higher after high emperature thermomechanical treatment, than after ordinary quenching. Thermomechanically processed samples had higher values of $H_V$ , than for those ordinarily quenched. The following high temperature thermomechanical treatment cycle was recommended for interact deformation of 45 steel: temperature of deformation—800-900°C, degree of deformation—60-100%. V. Olenicheva.  3. Code 2/2									
emperature thermomechanical treatment, than after ordinary quenching. Thermomechanially processed samples had higher values of $H_V$ , than for those ordinarily quenched.  The following high temperature thermomechanical treatment cycle was recommended for impact deformation of 45 steel: temperature of deformation-800-900°C, degree of deformation-60-100%. V. Olenicheva.  The code: 11,13	CC NR: AR6027512								
ally processed samples had higher values of $H_V$ , than for those ordinarily quenched.  The following high temperature thermomechanical treatment cycle was recommended for impact deformation of 45 steel: temperature of deformation—800-900°C, degree of deformation—60-100%. V. Olenicheva.  The CODE: 11,13	were higher than after normal heat treatment; $\sigma_{b}$ only was slightly higher after high								
ne following high temperature thermomechanical treatment cycle was recommended for imact deformation of 45 steel: temperature of deformation-800-900°C, degree of deforation-60-100%. V. Olenicheva.  UB CODE: 11,13	mperature thermomechanical treatment, than after ordinary quenching. Thermomechilly processed samples had higher values of $H_V$ , than for those ordinarily quenches	nani- ed.							
IB CODE: 11,13	e following high temperature thermomechanical treatment cycle was recommended for the deformation of 45 steel: temperature of deformation800-900°C, degree of deformation800	or im-							
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	ard 2/2								

KHEVELEV, E.M.; KRIVTSOV, K.S., kand. arkhitektury, nauchnyy red. Frinimali uchastiye: BOGDANOV, I.M., inzh.; LOYKONEN, V.F., inzh.; VOLFYAN, B.L., inzh.; DAVIDOVICH, L.H., kand. tekhn. nauk, retsenzent; DENISOV, Yu.M., red.; ROZOV, L.K., tekhn. red.

[Design of city garages] Proektirovanie gorodskikh garazhei. Leningrad, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 183 p. (MIRA 14:10)

LEVINA, R.Ya.; LOYM, N.M.; GEMBITSKIY, P.A.

p-Cyclopropylbenzaldehyde. Zhur.ob.khim. 33 no.6:2074-2075
Je '63. (MIRA 16:7)

1. Moskovskiy gosudarstvennyy universitet.
(Benzaldehyde) (Cyclopropyl group)

LEVINA, E.N.; LOYT, A.O.

Comparative toxicity of qobalt oxides. Gig. i san. 26 no.10:27-31 0 '61. (MIRA 15:5)

1. Iz toksikologicheskoy laboratorii Instituta gigiyeny truda i professional nykh zavolevaniy, Leningrad.
(COBALT—PHYSIOLOGICAL EFFECT)

LEVINA, E.N.; LOYT, A.O.

Effect of cobalt oxides on the amount of reducing substances in the blood and glycogen in the liver of rats. Vop. med. khim. 8 no.2:131-134 Mr-Ap '62. (MIRA 15:4)

1. Toksikologicheskaya laboratoriya Gosudarstvennogo nauchnoissledovatel skogo instituta gigiyeny truda i profzabolevaniy, Leningrad.

(CARBOHYDRATE METABOLISM) (COBALT OXIDES--PHYSIOLOGICAL EFFECT)

ABRAMOVA, Zh.I., kand. med. nauk; GADASKINA, I.D., prof.; GOLUBEV,
A.A., kand. med. nauk; DANISHEVSKIY, S.L., prof.; ZIL'BER,
Yu.D., kand. med. nauk; LAZAREV, L.N., kand. khim. nauk;
LEVINA, E.N., doktor med. nauk; LOYT, A.O.; IYUBLINA, Ye.I.,
doktor biol. nauk; LYKHINA, Ye.T., kand. biol. nauk;
MINKINA, N.A., kand. med. nauk; RUSIN, V.Ya., kand. med.
nauk; SAIYAMON, L.S., kand. med. nauk; SPERANSKIY, S.V.,
TRAKHTENBERG, I.M., dots.; FILOV, V.A., kand. biol. nauk;
TSIRK, K.G., kand. med. nauk; CHEKUNOVA. M.P., kand. med.
nauk; GRIVA, Z.I., red.; LAZAREV, N.V., zasl.deyat.nauki, prof.,
red.; LEVIN, S.S., tekhn. red.; BASINA, M.Z., tekhn. red.

[Toxic industrial substances; handbook for chemists, engineers and physicians] Vrednye veshchestva v promyshlennosti; spravochnik dlia khimikov, inzhenerov i vrachei. Izd.4., perer.i dop. Leningrad, Goskhimizdat. Pt.2.[Inorganic and metalloorganic compounds] Neorganicheskie i elementorganicheskie soedineniia. 1963. 619 p. (MIRA 17:2)

ALEKSANDROV, A.I., doktor med.mauk; ACMARCVICH, G.M., kend.med.mauk;
IFEEDEVA, Z.P., kand.med.mauk; IOYT, R.L., kand.med.mauk

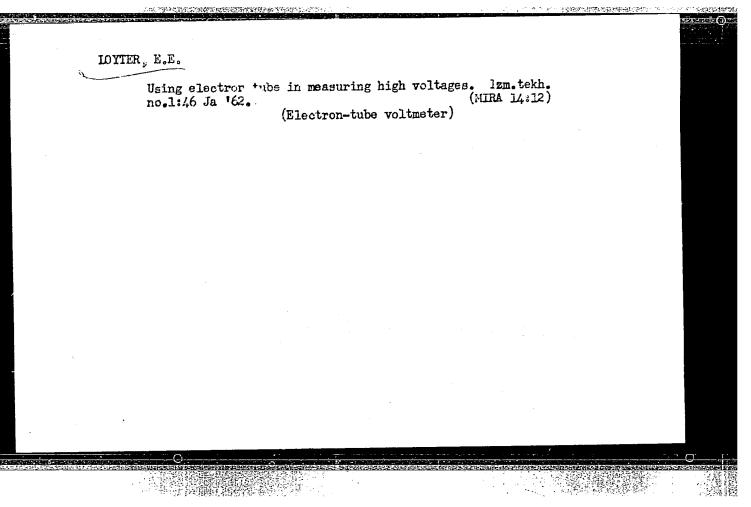
Effect of excessively intense noise from jet engines on the organ
of hearing. Vest. ctorin. 25 no.5:15-21 3-0 '63. (MIRA 17:4)

MAYZEL', S. Ya.; LOYTER, E.E.

Wide-range voltage control on electric transmission lines. Vest.
AN Kazakh, SSR 16 no.1:54-58 Ja '60. (MIRA 13:5)

(Electric power distribution)

(Voltage regulators)



IGNAT'YEVA, A. M.; LOYTER, E. E.

Minimum calculated cost of electric power transmission
lines with different carrying capacity and length. Izv. AN
Kazakh. SSR. Ser. energ. no.2:11-18 162.

(MIRA 16:1)

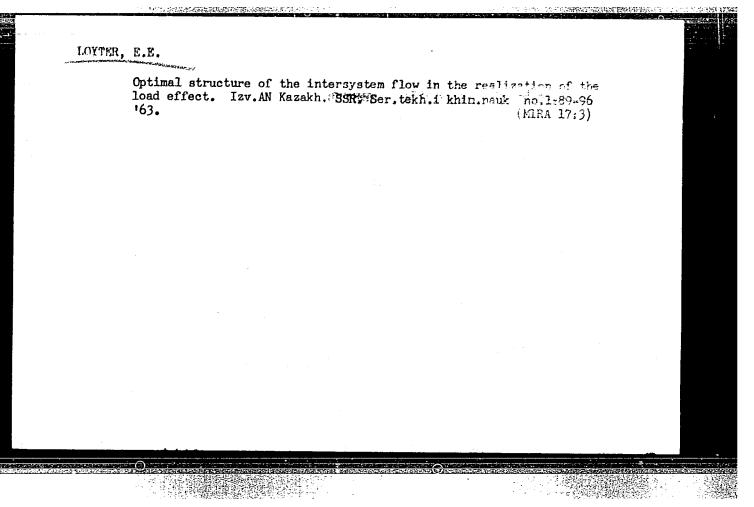
(Electric lines—Overhead)
(Electric power distribution)

#### LOYTER, E. E.

KIND PARENTENNELSKIERAKINE (1901)

Choice of an efficient system for carrying the flow between power plants in the prospective development of a consolidated electric utility system. Izv. AN Kazakh. SSR. Ser. energ. no.2:19-27 62. (MIRA 16:1)

(Electric power distribution)
(Interconnected electric utility systems)



# GALUZO, K.P.; LOYTER, E.E.

Efficient individual capacity of the block units of the Kazakhstan Electric Power Station taking into account the dynamics of its construction. Izv. AN Kazakh. SSR. Ser. tekh. i khim. nauk no.2:90-100 '63. (MIRA 17:2)

ALAMPIYEV, P.M., kandidat geograficheskikh nauk, dotsent; GRIGOR'YEV, A.L., kandidat ekonomicheskikh nauk; ZHMUYDA, V.B., kandidat ekonomicheskikh nauk, dotsent; LOYTER, M.N., kandidat tekhnicheskikh nauk; LYALIKOV, N.I., kandidat geograficheskikh nauk, dotsent; NIKITIN, N.P., professor; TUTYKHIN, B.A., kandidat geograficheskikh nauk, dotsent; CHERDANTSEV, Gleb Nikanorovich, doktor ekonomicheskikh nauk, professor; DZHAVAKHISHVILI, A.A., professor; GVELESIYANI, G.G., dotsent; GAIKIN, P.D., redaktor; RODIONOVA, F.A., redaktor; SAKHA-ROVA, N.V., tekhnicheskiy redaktor.

[Economic geography of the U.S.S.R.; Soviet Socialist republics;
Ukrainian, Moldavian, White Russian, Lithuanian, Latvian, Estonian,
Karelo-Finnish, Georgian, Azerbaijan, Armenian, Kazakh, Uzbek,
Kirghiz, Tajik, turkmen] Ekonomicheskaia geografiia SSSR; Sovetskie
sotsialisticheskie Respubliki: Ukrainskaia, Moldavskaia, Belorusskaia,
Litovskaia, Latviiskaia, Estonskaia, Karelo-Finskaia, Gruzinskaia,
Azerbaidzhanskaia, Armianskaia, Kazakhskaia, Uzbekskaia, Kirgizskaia,
Tadshikskaia, Turkmenskaia. Moskva, Gos. uchebno-pedagog. izd-vo
Ministerstva prosveshcheniia RSFSR, 1954. 426 p. [Microfilm]
(Geography, Economic)

DANILOVA, G.V.; LOYTER, M.N.; ALEKSEYEV, N.A.; KOVALEV, I.I.; DANILOV, A.Ye.; SHENDRIKOV, G.M., T.O. glavnogo metodista; ORLOVA, V.P., redaktor; PAVIOVA, M.M., tekhnicheskiy redaktor

["Water resources management and rural hydroelectric power stations" pavilion; a guidebook] Pavil'on "Vodnoe khoziaistvo i sel'skie gidroelektrostantsii"; putevoditel'. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 21 p. (MIRA 9:12)

1. Moscow. Vsesoyuznaya sel'skokhozyaystvennaya vystavka, 1954-

2. Direktor pavil'ona (for Danilova)
(Moscow--Agricultural exhibitions)

(Water supply, Rural)

(Hydroelectric power stations)

# LOYTER, M.N., kand.tekhn.nauk

Method of determining the economic effectiveness of capital investments and a new technique in land reclamation. Gidr.i mel. 13 no.7:3-15 Jl '61. (MIRA 14:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhniki i melioratsii im. A.N.Kostyakova.

(Reclamation of land—Economic aspects)

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	All Library of Congress  One of the Congress of Congre	PRIME I DOM ESTICISMENS 807/8677  Suggerendaturys pribary 1 this primerators should enter, VFP. 5 (Sectionalized Prices and Their Application Collection of Articles, No. 5)) (Section page) D. A. Paderer; Ed. (Daria book): I. M. Volbrus Princh act Ed. A. Section 3 M. Erroy's Ed. (Daria book): I. M. Volbrus Princh act I. G. Sepilvon, A. M. Broy's 7c. I. Garia book): I. M. Volbrus Princh act II. G. Sepilvon, A. M. Broy's 7c. I. Garia book): I. M. Volbrus Princh Briston, I. G. Sepilvon, A. M. Broy's 7c. I. Garia book): I. M. Volbrus Princh Briston, II. Garia Princh Briston of criticis in invaded for specialists writing in the field of sectionalists of criticis in invaded for specialists writing in the field of sectionalists of discuss basic transistor parameter, methods of securing then, and sees problems in the use of transistor parameters, methods of securing then, and sees problems in the use of transistor farmitists; Pro of the articles describe the use of transistor farmitists; Pro of the first transistor White Sepped by Readown United on the Enterior application, by parametric Parameters Indicated the Proposition of the Security Indicated the Sepped by Readown United Collection  Propositional Principles of Calibory, Department population of the Security I. A. S. Systor, and I. D. Skyagata. Transistor Edge Security I. A. S. Systor, and I. D. Skyagata. Transistor Edge Security I. A. S. Systor, and I. D. Skyagata. Transistor Edge Security I. A. S. Systor, and I. D. Skyagata. Transistor Edge Security I. A. S. Systor, and I. D. Skyagata. Transistor Edge Security I. A. S. Systor, and I. D. Skyagata. Transistor Edge Security I. A. S. Systor, and I. D. Skyagata. Transistor Edge Security I. A. S. Systor, and I. D. Skyagata. Transistor Edge Security I. B. Security Indianal Systomatics of Edge-Systophe Devices of Calibory. Busyagata Security I. S. D. Security Indianal Systomatics of Edge-Systophe Systomatics Indianal Systomatics of Edge-Systophe Systomatics Indianal Systomatics Indianal Systomatics Indianal Systomatics	

LOYISKER, B.R.; MIRONOV, A.P.

Methods for testing dynamometric elements and strain gauges.

(MIRA 15:9)

Priborostroenie no.818-9 Ag '62.

(Dynamometer.—Testing) (Strain gauges.—Testing)

(Dynamometer.—Testing)

LOTTSYANSKAYA, I.L. (Leningrad)

Theoretical calculation of geometrical parameters of cascades of profiles used in reversible turbogenerator units. Izv. AN SSSR Mekh. i mashinostr. no.4:165-168 '64 (MIRA 17:8)

# LOYTSYANSKAYA, I. L., inzh.

也是**由于了我们就的根据和关键的对抗是否的证据**在中心。

Gate mechanism of a Francis-type hydraulic turbine por rator unit. Izv. vys. ucheb. zav.; energ. 7 no.5:86-92 My 64. (MIRA 17:7)

1. Leningradskiy politekhnicheskiy institut imeni Kalinina. Predstavlena kafedroy gidravlicheskikh mashin.

ZVEZDKIN, V.I., inzh.; IZRAYELIT, G.B., inzh.; IOYTSYANSKAYA, M.B., inzh.

Determination of the permissible regree of moistening of transformer insulation. Elek.sta. 33 no.1:51-54 Ja '62. (MIRA 15:3) (Electric transformers—Windings)

- 1. ZVEZDKIN, V. H., ENG., LOYTSYANSKAYA, M. G., ENG.
- 2. USSR (600)
- 4. Electric Insulators and Insulation
- 7. Frost resistance of sealing material. Elek. sta. 23, no. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953, Unclassified.

IERAYELIT, G.B., inzhener; LOYTSYAMSKAYA, M.G.; KHOMYAKOV, M.V., inzhener; BARKAN, M.A., inzhener; KAHAMZIN, A.P., inzhener; LYSAKOVSKIY, G.I., inzhener; VOLODIN, M.N., inzhener.

Testing the insulation of concrete reactors. Elek.sta. 25 no.10:41-47 0 '54. (MLRA 7:11)

1. Mosenergo (for Khomyakov). 2. Gorenergo (for Barkan). 3. Sverdlovenergo (for Karamzin). 4. Donbassenergo (for Lysakovskiy). 5. Chelyabenergo (for Volodin). (Electric insulators and insulation)

Leyf 54ch keye M. C.

ZVEZDKIN, V.V., insh.; LOTTSYANSKAYA, H.G., inzh.

Defects of bituminous compositions for high-voltage bushings.

Blek.sta.29 no.3:62-64 Mr '58. (MIRA 11:5)

(Blectric insulators and insulation)

ZVEZDKIN, V.I., inzh.; IZHAYELIT, G.B., inzh.; IOYTSYANSKAYA, M.G., inzh.; NADEL'SON, R.G., inzh.

Effect of the dielectric properties of transformer oil on the strength of electric insulation of transformers. Elek.sta. 31 no.4:60-64 Ap '60. (MIRA 13:7) (Electric transformers) (Insulating oils)

9.2120

5/104/60/000/004/001/001 E194/E484

AUTHORS:

Zvezdkin, V.I., Engineer, Izrayelit, G.B., Engineer, Loytsyanskaya, M.G., Engineer and Nadel'son, R.G.,

Engineer

TITLE:

The Influence of the Dielectric Properties of Transformer Oil on the Electric Strength of Transformer Insulation

PERIODICAL: Elektricheskiye Stantsii, 1960, No.4, pp.60-64

Study of the insulation of transformers in service shows that the insulating properties often deteriorate quite quickly, although the electric strength remains high the power factor increases and the insulation resistance diminishes. As this has been due to impaired characteristics of the oil, thermo-syphon filters have been fitted to many transformers or the oil has been changed. However, these are both temporary or inadequate solutions and it was decided to study whether it was safe to leave transformers in service with oil of poor dielectric properties. Increase in the dielectric loss angle of transformer insulation caused by deterioration in the electrical properties of the oil causes additional heating of the insulation which could lead to Card 1/5

S/104/60/000/004/001/001 E194/E484

The Influence of the Dielectric Properties of Transformer Oil on the Electric Strength of Transformer Insulation

Normally dielectric losses in transformers are so small that they may be neglected in comparison with the iron and breakdown. copper losses; however, these dielectric losses increase considerably as the power factor of the oil deteriorates in service. Calculations were made for a transformer of 100 MVA, 220/110/10 kV which showed that with new oil the losses of the solid dielectric were 5.22 kW and of the oil 0.763 kW, whilst with oil of tan  $\delta = 93\%$  the losses of the solid insulation were 10.6 kW and of It is considered that losses of this magnitude are not dangerous in a transformer of this size particularly as the oil 54 kW. most of them occur within the oil where heat transfer conditions are good. Deterioration of the electrical properties of the oil has no influence on the short term electric strength. impairment of the electrical properties of the oil is accompanied by increase in the permittivity and calculations are made on the assumption that the permittivity of the oil rises from 2.1 to 4.5 It is shown that whereas the voltage gradient in the oil at 60°C. Card 2/5

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The Influence of the Dielectric Properties of Transformer Oil on the Electric Strength of Transformer Insulation

then diminishes from 38 to 35 kV/cm the gradient in the bakelite rises from 16.1 to 31.4 kV/cm. However, this is not considered to be dangerous. The increased stress in paper board is less because it is more highly impregnated with oil. Thus, the calculations reveal no special risk in allowing transformers with oil of high power factor or low resistivity to continue in service. Tests were made on various transformers filled alternatively with fresh and deteriorated oil, large power transformers could not be used for these tests but instrument transformers and a smaller power transformer were used. The values of breakdown voltage were determined for the case of thermal breakdown with the transformer insulation at a temperature not below 95°C. temperature was maintained by the use of a special heated chamber. At 20°C, the properties of the used oil were tan  $\delta$  = 7%, resistivity 4.55 x  $10^{11}$  ohm cm and at 80°C tan  $\delta$  = 90%, resistivity 3.2 x 1010 ohm cm, the corresponding values for fresh oil were: at 20°C, tan  $\delta$  = 0.1%, resistivity = 3.2 x 10<sup>14</sup> ohm cm Card 3/5

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and at 80°C, tan  $\delta = 0.5\%$ , resistivity = 1.88 x  $10^{13}$  ohm cm. The tests on the two types of instruments, transformer and the power transformer, are described and tests results are plotted in Fig. 2, 3, 4 and 5. It is concluded that in each case, the minimum value of voltage at which thermal breakdown would commence with fresh and used oil is either the same or so little different Where there is a difference, the insulation as not to matter. temperature is in fact much higher than would be observed in service. It is concluded that power transformers in service have sufficient reserve of insulation strength for there to be no special risk in continuing to use oil of impaired properties. The above calculated and experimental data are confirmed by reliable service experience of a number of large transformers, Table 2 gives properties of the oil in details of which are given. a number of German transformers both initially and after six years operation before major overhaul. During this service period the dielectric properties of the winding insulation had deteriorated by Card 4/5

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a factor of 5 to 8 as compared with the initial values. The power system still has in service 7 large transformers in which the power factor of the oil is greatly in excess of the standard value. It is concluded that it is permissible to leave large transformers in service if the oil has high power factor or low resistivity, but is not wet, until the next major overhaul. However, this is no justification either for not replacing such deteriorated oil in transformers after overhaul or in relaxing the requirements on the oil refineries. There are 5 figures, 3 tables and 7 references: 4 Soviet, 2 English and 1 German.

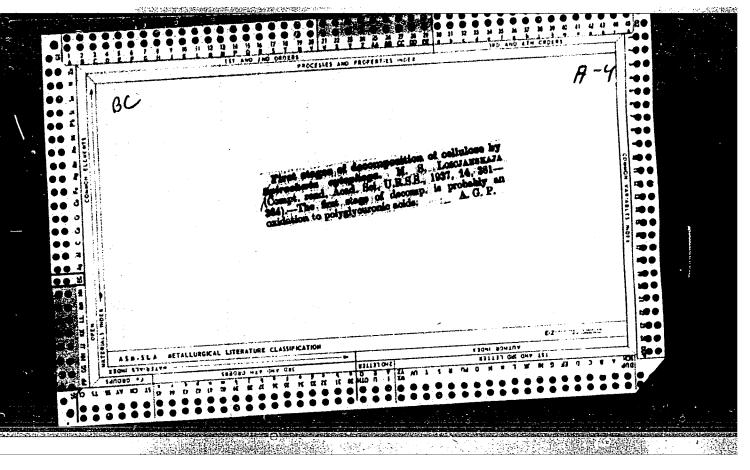
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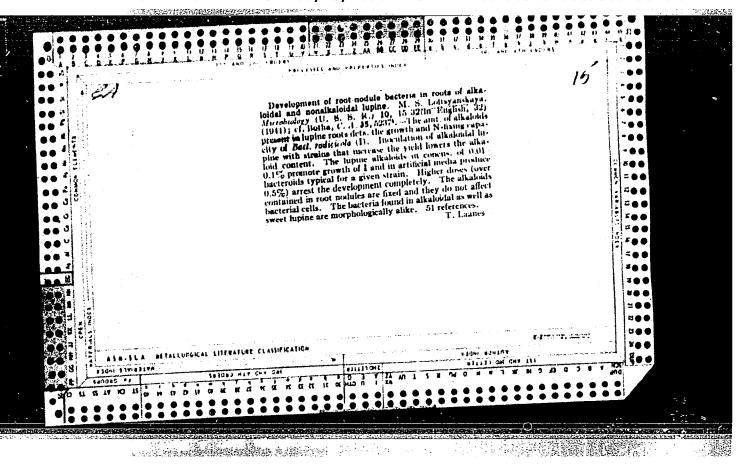
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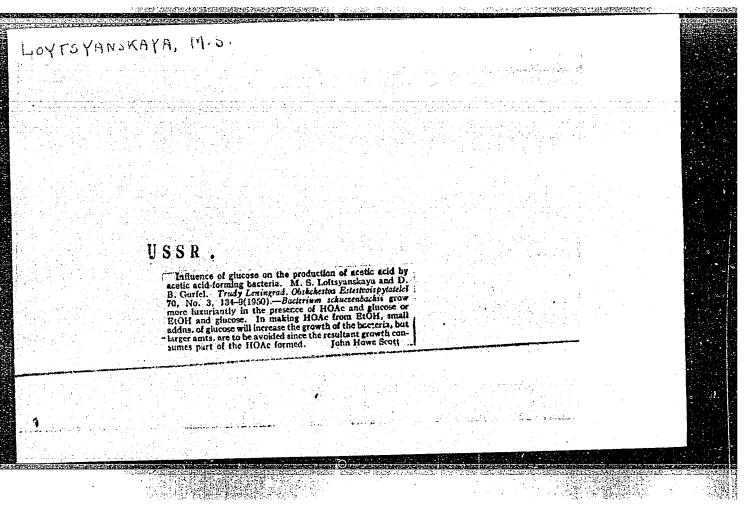


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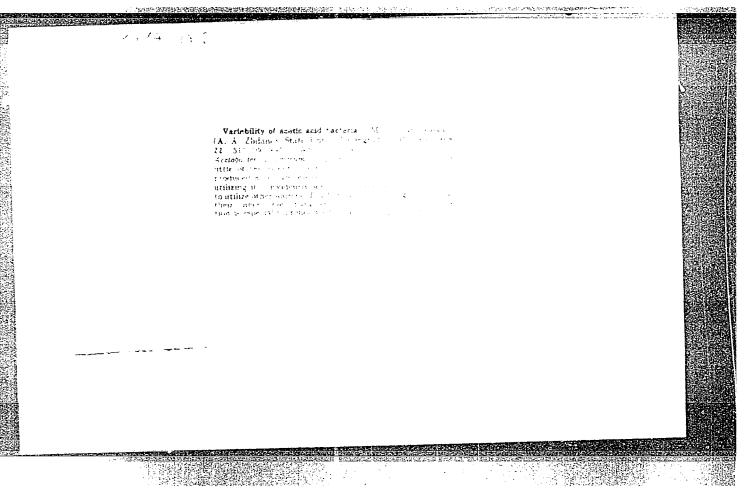
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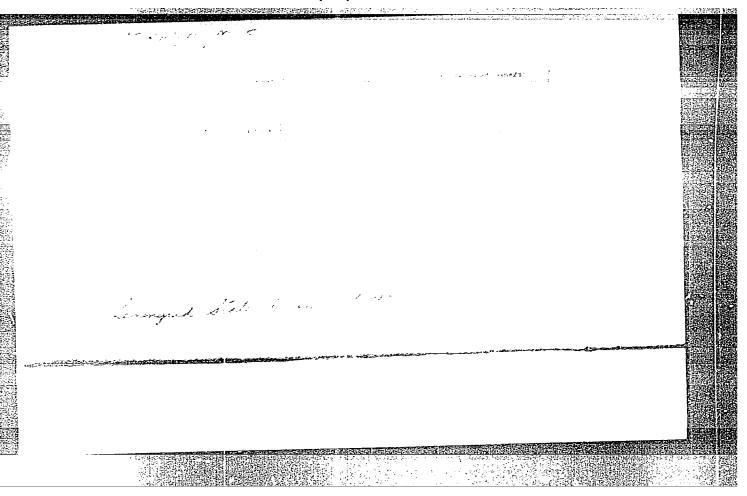
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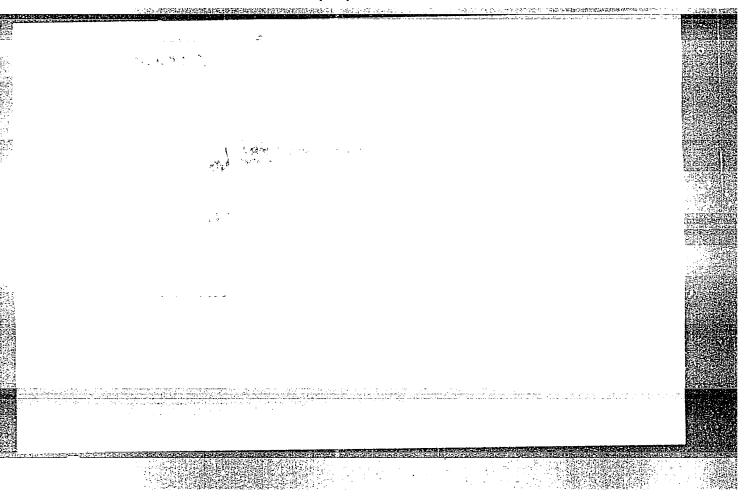


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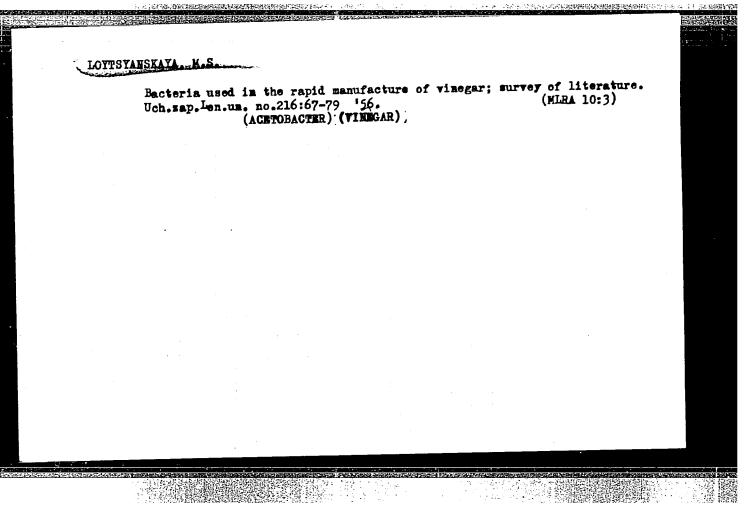




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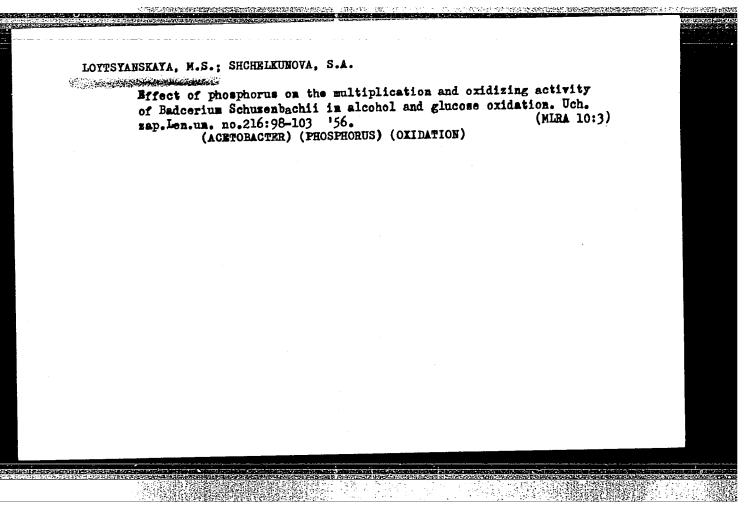
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